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10/773,287	02/09/2004	Arto Palin	4208-4175	8738
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MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			HUANG, WEN WU	
			ART UNIT	PAPER NUMBER
			2618	

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/773,287

Applicant(s)

PALIN ET AL.

Examiner

Wen W. Huang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 2, 6-12 and 15-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Lyle et al. (US PUB NO. 2005/0058181 A1; hereinafter "Lyle")

Regarding **claim 1**, Lyle teaches a method in a wireless communications device, comprising:

(a) identifying a frequency hopping pattern associated with a remote short-range wireless communications network (see Lyle, fig. 3, component 310 and para. [0031], lines 9-12);

(b) based on the identified frequency hopping pattern (see Lyle, para. [0034], lines 16-19), selecting a frequency hopping pattern for communications in a local short-range wireless communications network (see Lyle, fig. 3, component 302 and para. [0034], lines 1-4; para. [0027], lines 4-7); and

(c) based on the identified frequency hopping pattern (see Lyle, para. [0034], lines 16-19), selecting a timing for the selected frequency hopping pattern (see Lyle, para. [0036], lines 1-4 and para. [0037], lines 10-13).

Regarding **claim 2**, Lyle also teaches the method of claim 1, further comprising: transmitting one or more symbols according to the selected frequency hopping pattern and the selected timing (see Lyle, para. [0021], lines 9-10 and 14-17).

Regarding **claim 6**, Lyle also teaches the method of claim 1, wherein the identified frequency hopping pattern and the selected frequency-hopping pattern are the same (see Lyle, para. [0037], lines 9-11).

Regarding **claim 7**, Lyle also teaches the method of claim 1, wherein the selected timing provides for no collisions between the identified frequency hopping pattern and the selected frequency hopping pattern (see Lyle, para. [0032], lines 6-10).

Regarding **claim 8**, Lyle also teaches the method of claim 1, wherein the identified frequency hopping pattern and the selected frequency hopping pattern are different (see Lyle, para. [0038], lines 1-5).

Regarding **claim 9**, Lyle also teaches the method of claim 8, wherein the selected timing provides for minimal collisions between the identified frequency hopping pattern and the selected frequency hopping pattern (see Lyle, para. [0034], lines 16-19).

Regarding **claim 10**, Lyle also teaches the method of claim 1, further comprising: directing one or more remote wireless communications devices to employ the selected frequency hopping pattern (see Lyle, para. [0029], lines 2-5 and 12-13).

Regarding **claim 11**, Lyle teaches a system (see Lyle, fig. 3), comprising:

- means for identifying a frequency hopping pattern associated with a remote short-range wireless communications network (see Lyle, fig. 3, component 310 and para. [0031], lines 9-12);
- means for selecting a frequency-hopping pattern for communications in a local short-range wireless communications network (see Lyle, fig. 3, component 302 and para. [0034], lines 1-4; para. [0027], lines 4-7) based on the identified frequency hopping pattern (see Lyle, para. [0034], lines 16-19); and
- means for selecting a timing for the selected frequency hopping pattern (see Lyle, para. [0036], lines 1-4 and para. [0037], lines 10-13) based on the identified frequency hopping pattern (see Lyle, para. [0034], lines 16-19).

Regarding **claims 12 and 15-19**, the apparatus dependent claims are interpreted and rejected for the same reasons as set forth above in claims 2 and 6-10, respectively.

2. Claims 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Fleek et al. (US. 5,533,025; hereinafter "Fleek")

Regarding **claim 23**, Fleek teaches a wireless communications device, comprising:

a carrier sensing module (see Fleek, fig. 2, component 100 and col. 4, lines 52-53) configured to monitor transmissions in one or more frequency bands (see Fleek, col. 6, lines 44-46);

a timing controller (see Fleek, fig. 2, component 100 and col. 4, lines 52-53) configured to control one or more transmission times according to a frequency hopping pattern based on energy levels detected in a frequency band by the carrier sensing module (see Fleek, col. 5, lines 31-39); and

a transceiver (see Fleek, fig. 2, component 100 and col. 4, lines 52-53) configured to receive the frequency hopping pattern from a device in the local short-range wireless communications network (see Fleek, col. 7, lines 38-41), and to transmit data at the one or more data transmission times (see Fleek, col. 5, lines 48-49) according to the frequency hopping pattern (see Fleek, col. 6, lines 44-46).

Regarding **claim 24**, Fleek also teaches the wireless communications device of claim 23, wherein the transceiver is further configured to receive the frequency hopping

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pattern in a beacon transmission (see Fleek, fig. 7, col. 6, lines 29-34 and col. 7, lines 29-36).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 14, 20-22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyle in view of Fleek.

Regarding **claim 4**, Lyle teaches the method of claim 1.

Lyle is silent to teaching that wherein step (c) comprises:

identifying a low energy condition in the frequency band; and

designating a starting time for the selected frequency hopping pattern during the low energy condition. However, the claimed limitation is well known in the art as evidenced by Fleek.

In the same field of endeavor, Fleek teaches a method in a wireless communications device, comprising:

identifying a low energy condition in the frequency band (see Fleek, col. 5, lines 31-34); and

designating a starting time for the selected frequency hopping pattern during the low energy condition (see Fleek, col. 5, lines 34-39 and 48-49).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Lyle with the teaching of Fleek in order to maintain frequency hopping synchronization and avoid collision (see Fleek, col. 2, lines 55-59).

Regarding **claim 5**, Lyle teaches the method of claim 1.

Lyle is silent to teaching that wherein step (c) comprises:

monitoring transmissions in a frequency band;

identifying a low energy condition in the frequency band; and

designating a starting time for the selected frequency hopping pattern during the low energy condition. However, the claimed limitation is well known in the art as evidenced by Fleek.

In the same field of endeavor, Fleek teaches a method in a wireless communications device, comprising:

monitoring transmissions in a frequency band (see Fleek, col. 6, lines 44-46);

identifying a low energy condition in the frequency band (see Fleek, col. 5, lines 31-34); and

designating a starting time for the selected frequency hopping pattern during the low energy condition (see Fleek, col. 5, lines 34-39 and 48-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Lyle with the teaching of



Fleek in order to maintain frequency hopping synchronization and avoid collision (see Fleek, col. 2, lines 55-59).

Regarding **claim 14**, the apparatus claim is interpreted and rejected for the same reason as set forth above in claim 5.

Regarding **claim 20**, Lyle teaches a wireless communications device (see Lyle, fig. 3), comprising:

a carrier sensing module configured to monitor transmissions in one or more frequency bands (see Lyle, fig. 3, component 310 and para. [0031], lines 9-12);

a timing controller configured to select a frequency hopping pattern for a local short-range wireless network (see Lyle, fig. 3, component 302 and para. [0034], lines 1-4; para. [0027], lines 4-7) based on a frequency hopping pattern of a remote short-range wireless communications network detected by the carrier sensing module (see Lyle, para. [0034], lines 16-19), and to control one or more transmission times (see Lyle, para. [0036], lines 1-4 and para. [0037], lines 10-13); and

a transceiver configured to transmit data at the one or more data transmission times (see Lyle, para. [0022]) according to the selected frequency hopping pattern (see Lyle, para. [0021], lines 14-17).

Lyle is silent to teaching that said timing controller configured to control one or more transmission times according to the selected frequency hopping pattern based on

energy levels detected in a frequency band by the carrier sensing module. However, the claimed limitation is well known in the art as evidenced by Fleek.

In the same field of endeavor, Fleek teaches a wireless communication device (see Fleek, fig. 2) comprising a timing controller (see Fleek, fig. 2, component 100 and col. 4, lines 52-53) configured to control one or more transmission times (see Fleek, col. 5, lines 31-39) according to the selected frequency hopping pattern based on energy levels detected in a frequency band by the carrier sensing module (see Fleek, col. 6, lines 44-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Lyle with the teaching of Fleek in order to maintain frequency hopping synchronization and avoid collision (see Fleek, col. 2, lines 55-59).

Regarding **claim 21**, the combination of Lyle and Fleek also teaches the wireless communications device of claim 20, wherein the transceiver is further configured to transmit the selected frequency hopping pattern to one or more devices in the local short-range wireless network (see Fleek, fig. 7, col. 6, lines 29-34 and col. 7, lines 29-36).

Regarding **claim 22**, the combination of Lyle and Fleek also teaches the wireless communications device of claim 21, wherein the transceiver is further configured to transmit the selected frequency hopping pattern to the one or more devices in the local

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short-range wireless network in a beacon transmission (see Fleek, fig. 7, col. 6, lines 29-34 and col. 7, lines 29-36).

Regarding **claim 25**, Lyle teaches a method in a wireless communications device (see Lyle, fig. 3), comprising:

monitoring transmissions in one or more frequency bands of a plurality of channels (see Lyle, fig. 3, component 310 and para. [0031], lines 9-12);

based on the monitored transmissions (see Lyle, para. [0034], lines 16-19), determining a time frequency code (TFC) of a remote short-range wireless communications network (see Lyle, para. [0036], lines 1-6); and

selecting a TFC for use in a local short-range wireless communications network based on the TFC of the remote wireless communications network (see Lyle, para. [0036], lines 6-12).

Lyle is silent to teaching that comprising:

distributing information regarding the selected TFC to one or more remote devices within the local short-range wireless communications network;

determining whether the wireless communications device needs to transmit data within the local short-range wireless communications network; and

monitoring one or more of the frequency bands to designate a transmission timing for the data. However, the claimed limitation is well known in the art as evidenced by Fleek.

In the same field of endeavor, Fleek teaches a method in wireless communication device comprising:

distributing information regarding the selected TFC to one or more remote devices within the local short-range wireless communications network (see Fleek, fig. 7, col. 6, lines 29-34 and col. 7, lines 29-36);

determining whether the wireless communications device needs to transmit data within the local short-range wireless communications network (see Fleek, col. 5, lines 31-33); and

monitoring one or more of the frequency bands to designate a transmission timing for the data (see Fleek, col. 5, lines 34-39 and 48-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Lyle with the teaching of Fleek in order to maintain frequency hopping synchronization and avoid collision (see Fleek, col. 2, lines 55-59).

3. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyle as applied to claims 1 and 11, respectively above, and further in view of Ryan (US. 6,333,937 B1).

Regarding **claim 3**, Lyle teaches the method of claim 2.

Lyle is silent to teaching that wherein the one or more symbols are OFDM symbols. However, the claimed limitation is well known in the art as evidenced by Ryan.

In the same field of endeavor, Ryan teaches a method in a wireless communications device wherein the one or more symbols are OFDM symbols (see Ryan, col. 3, lines 35-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Lyle with the teaching of Ryan in order to improve the performance of the wireless communication (see Ryan, col. 3, lines 43-54).

Regarding **claim 13**, the apparatus claim is interpreted and rejected for the same reason as set forth above in claim 3.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dehner et al. (US PUB NO. 2003/0035464 A1) teach a method for facilitating handoff in a WLAN.

Hlasny (US 6,603,799 B1) teaches a method for detecting the hopping sequence of an interfering network.

Shida et al. (US. 6,014,406) teach frequency-hopped wireless communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen W. Huang whose telephone number is (571) 272-7852. The examiner can normally be reached on 10am - 6pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

wwh



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QUOCHIEN B. VUONG  
PRIMARY EXAMINER